REMARKS

This response is being filed by the undersigned in accordance with the provisions of 37 C.F.R. §1.34. A Revocation and Power of Attorney to the undersigned is being concurrently filed herewith. A Request for Continued Examination is also being concurrently filed.

Claims 1 - 35 remain active in this application. Amendment of claims 1, 22 and 24 has been requested for clarity and to avoid a construction thereof made by the Examiner. Support for the amendments of the claims is found throughout the application, particularly paragraphs 0034, 0043 and 0051 and in Figures 3 and 5 and the description thereof in paragraphs 0036 - 0043 and 0048 - 0061. (Paragraph references herein are to the published U. S. Patent Application US 2003/0022645A1.) No new matter has been introduced into the application. The withdrawal of the objections to the specification and drawings is noted with appreciation.

Claims 1 - 7, 9 - 10 12 - 18, 21, 24 - 26, 28 - 32 and 35 have been rejected under 35 U.S.C. §102 as being anticipated by Bush et al. Claims 8, 11, 19 - 20, 22 - 23 27 and 33 - 34 have been rejected under 35 U.S.C. §103 as being unpatentable over Bush et al. in view of Ostteen et al. These grounds of rejection are respectfully traversed for the reasons of record and the further remarks appended below and, particularly, as being moot in view of the amendments requested above.

The invention recognizes that signal leakage from a cable communications system is notoriously difficult to detect in the presence of electrical noise at the same or similar frequencies which thus constitute interference and lead to "false positive" detection using known devices (see paragraph 0047), particularly where leakage

detection is based on signal strength. The invention further recognizes that the injection of test signals such that detection thereof can be used to validate a signal as being leakage consumes bandwidth which may not be available and may interfere with regular programming. Such detection of any coded signal also very much complicates the structure of the receiver that is used to detect a signal that potentially represents signal leakage and then validates that signal as leakage (rather than interference/noise). The invention thus provides a system which is, counter-intuitively, capable of validating a received signal on the basis of signal strength alone and without detection of any coded signal whether injected as a test signal (which consumes band width which is at a premium) or a particular coded signal representing some portion of the channel programming, by comparison of signal strengths as received at two different frequencies within the same channel allocation. Thus, the receiver used to carry out the invention can be very much simplified by omission of structure for detecting coded signals, as illustrated in the block diagram of Figure 3, and embodied as a small hand-held device (see paragraph 0043) by the simple expedient of detecting expected characteristics of the signal strength spectrum of normal channel programming. Moreover, regardless of how the receiver is embodied, the simple measurement of signal strength at two differing frequencies without need for detection of any code or programming, allows the process to be repeated more rapidly (e.g. 5 - 10 times per second - see paragraph 0059); allowing a user/technician to probe an area to better detect signal leakage (where the signal strength and detectability of characteristics thereof at different frequencies will increase with proximity to a potential

leakage source) or to confirm that no or only minimal leakage is present (e.g. by consistency of signal levels as an area is probed), even though interference levels may be high at a given frequency, than has been possible in the past or when relying on detection of code or programming.

More specifically, an example of the spectrum of signal representing channel programming is shown in Figure 1 with an expanded portion thereof shown in Figure 2. It is clearly seen from these Figures and the description in paragraphs 0033 - 0034 and elsewhere in the original specification, that the center visual carrier frequency corresponds to a sharp peak in the spectrum (as do the lower peaks corresponding to side bands) with the signal strength or energy diminishing rapidly as the frequency departs from the center frequency of each such peak and that the side band peaks are at least 20 db below the visual carrier center frequency with sideband peaks further diminishing by about 4 db from one side band peak to the next. It is this characteristic of the spectrum of channel programming which is leveraged by the invention to avoid a need for validation of the received signal as signal leakage by detection coded portions of the signal whether injected test signals or coded portions of the channel programming such as synchronization signals. That is, while a leakage signal may be "swamped" by interference signal strength, it is a characteristic of such interference that it is likely to be wideband or even if narrow band, unlikely to be well-correlated with a center carrier frequency or even any expected sideband. Therefore, interference may be distinguished from leakage signal by its comparative behavior in different parts of the spectrum differing from the *expected* comparative

behavior of channel programming in differing parts of the spectrum. Even relatively small leakage signal strength can be potentially distinguished by setting the claimed "predetermined amount" of difference of signal strength at differing frequencies to detect a change in spectral behavior that would reflect a leakage signal even in the presence of substantial interference such as by setting the detected signal strength difference threshold at 3 db where the expected change from "pure" leakage may be much greater (e.g. 20 db difference for the maximum side band strength).

Bush et al., at least as applied by the Examiner, avoids consumption of bandwidth for leakage detection by detecting the coded information in a sideband, such as modulation of a portion of the synchronizing intervals and detecting that (e.g. coded) modulation. The Examiner applies the claimed subject matter to Bush et al. by suggesting that the claimed off-tuning of the receiver is answered by tuning of the receiver of Bush et al. to the appropriate side band for detection of the modulation (although it appears that Bush et al. actually compares a signal magnitude of frequencies in a first frequency *band* (which may include leakage signal as well as broadband noise) with a signal magnitude in a second frequency band which can be assumed to *not* include a leakage signal).

While the invention can be practiced by off-tuning to a side band frequency, the off-tuning frequency is clearly disclosed to be independent thereof (e.g. off-tuning by as little as 5 kHz or by as much as 100 kHz to 1MHz where the side band separation is 15.734 kHz is explicitly disclosed). Further, even as recited in the claims as currently rejected, leakage detection is validated or an interference condition declared, based on comparative signal strength and a threshold (the

"predetermined amount" of energy difference) within a *single frequency band* and not *between* bands as taught by Bush et al. and *without* the modulation and detection of a modulated signal *required* by Bush et al. Moreover, amendment of the claims as requested above is believed to clearly and unambiguously preclude the application of Bush et al. to the claimed subject matter in the manner relied upon by the Examiner. Ostteen et al. does not mitigate these clear deficiencies of Bush et al. and the Examiner has not asserted that it does.

Dependent claims are believed to be patentably distinguished from the applied prior art by virtue of their dependency from independent claims which have been distinguished from the prior art as discussed above, and also by virtue of the recitations respectively contained therein. For example, Bush et al., particularly as applied by the Examiner does not perform the detection by reception of the existing RF carrier frequency (e.g. where the offset is small and the off-tuned measurement is made on the side of the carrier peak) as recited in claim 2. Bush et al. also relies on modulation or coding, contrary to claim 3. Bush et al. does not teach or suggest continuous repetition of the detection operation as recited in claim 4 or periodic updating of the carrier frequency signal level as recited in claims 16 - 18. Bush et al., as applied by the Examiner does not teach off-tuning over a range, as recited in claim 7, 8 and 24 but, on the contrary, relies on tuning to a side band.

Therefore, it is respectfully submitted that the Examiner has not made a *prima facie* demonstration of either anticipation or obviousness of the claimed subject matter and cannot do so in regard to the claims amended as requested above based on Bush et al. and/or Ostteen et

al. Accordingly, it is respectfully submitted that the currently asserted grounds of rejection are untenable and, upon reconsideration particularly in view of the amendments requested above, should be withdrawn.

It is also respectfully submitted that the finality of the present action is premature since no *prima facie* demonstration of anticipation or obviousness has been made in the present action (and none is admitted by the requested amendments which are submitted in order to expedite prosecution by precluding a particular construction of the reference not supported by the actual content thereof). Accordingly it is respectfully requested that the finality of the current action be withdrawn to permit entry of the above-requested amendments as a matter of right. In any event, it is respectfully submitted that the above-requested amendments cannot raise new issues since it is evident that the Examiner well-understands the intended scope of the claims while asserting that Bush et al. *could possibly be construed* as answering the same. Therefore, it is respectfully submitted that entry of the above-requested amendments is well-justified as placing the application in condition for allowance or, in the alternative, materially reducing issues for Appeal. However, to avoid incurring fees for extension of time and to obtain timely entry and consideration of the above-requested amendments, a Request for Continued Examination is being concurrently filed herewith.

Since all rejections, objections and requirements contained in the outstanding official action have been fully answered and shown to be in error and/or inapplicable to the present claims, it is respectfully submitted that reconsideration is now in order under the provisions of 37 C.F.R. §1.111(b) and such

reconsideration is respectfully requested. Upon reconsideration, it is also respectfully submitted that this application is in condition for allowance and such action is therefore respectfully requested.

If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,

Marshall M. Curtis
Reg. No. 33,138

Whitham, Curtis, Christofferson & Cook, P. C.
11491 Sunset Hills Road, Suite 340
Reston, Virginia 20190

(703) 787-9400
Customer Number: **30743**

Attachments:
Revocation and Power of Attorney
Request for Continued Examination